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THE NATURALIST

AMATEUR TAXIDERMY.

II.

NOW we have shown the processes requisite for removing the skins of birds and quadrupeds, and have left our specimen neatly filled with a temporary body, the skin having been thoroughly poisoned and preserved, and made pretty surely proof against the attack of insects, and not subject to decomposition ; this indefinitely, if proper manipulation is observed.

In this condition it is useful for study, and is in the required state for the cabinet.

Should the specimen, however, at any time, be selected to "set up," the following course may be followed :

In a sheet of *cotton batting* closely envelop the bird or quadruped, allowing several folds to cover it. A coarse cloth, well saturated with clean water, is wrapped loosely around the cotton, and the whole set aside for a few hours. At the expiration of twenty-four hours the smaller skins are softened sufficiently, and will be found to be much in the same condition as that of a freshly-skinned animal. The moisture has penetrated to all parts, and the roots of feathers or hair are so pliable that the exterior portions may be easily smoothed and returned to their proper places.

We now arrive at an important division of our subject—that which calls for the "counterfeit presentment" of life, which shall be more or less successful as we possess skill in manipulation, and an eye to reässemble the parts after nature's pattern.

Naturally we would select a fresh object, one that we may skin and mount at one sitting, before the parts become dried. The processes are much the same in each case. Our specimen in hand, and thoroughly softened, we remove the temporary stuffing. With soft hay or moss form a body—cotton is not used for this, as the necessary wires cannot be thrust into such a body easily—wrap tightly with "shoe thread," or similar, using the thread very freely, and carefully moulding the body, as we proceed, to resemble the natural body. In case of having a fresh specimen, the body should always be before you until this process is finished. The body when complete should be a trifle smaller than the natural one to allow for shrinkage. In Fig. 8 the parts *a a a* should be sewn through to form on each side a depression suitable for the fitting in of the wing bones when the body is in place.

An iron wire sharpened at each end is thrust along the back, and clinched at the large end of the body, the opposite or anterior end to project a little, upon which we now wind cotton or soft tow, to form the neck, all being tightly secured with thread, and moulded neatly to match the natural neck in size. Fig. 8 shows the completed body.

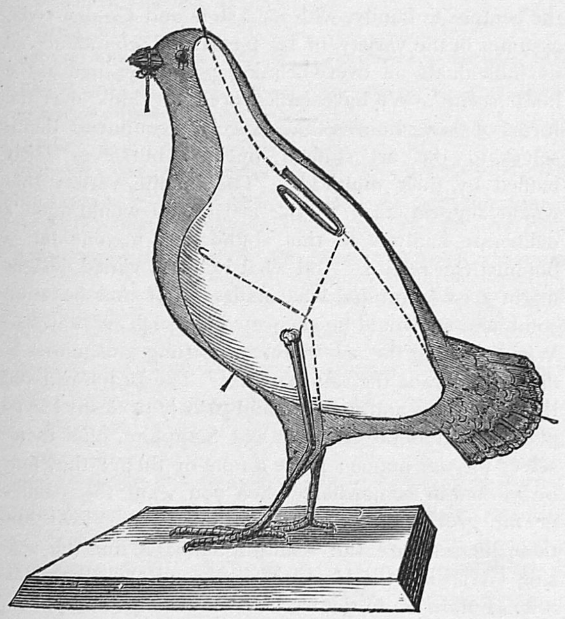

FIG. 9.

The skin is now laid out, and the sharpened neck wire thrust through the skull, and out from the forehead a little to give room to adjust the neck at proper length. The wing bones are tied together, a small space being left between the ends, about a half-inch for small birds. The skin is now brought carefully over the artifical body, and the feathers neatly adjusted. If there are any soiled feathers, as is frequently the case, they should be cleaned before the process goes further ; this is done by washing in soapy water and freely absorbing with plaster of Paris powder, the latter to be repeatedly alternated with washings, and at last used until the feathers are entirely dry.

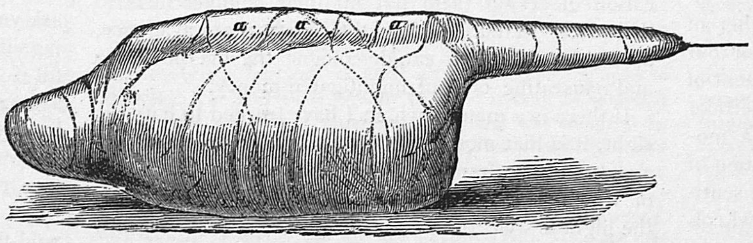

FIG. 8.

Wires are now prepared for supporting the body. Two iron wires, the same in size as used for the body, are sharpened and thrust through the feet and legs, and into the body, following along the leg bones upon which should be wound cotton or tow to fill out the thighs. The sharpened end of one of the wires is seen in Fig. 9 near the breast, where it is turned in to stiffen the hold upon the body. A better way is to clinch the two wires at the same point, and turn them both into the breast. The skin is now adjusted around the body, and the parts brought together in front. With a needle and thread the edges of the incision are carefully secured ; the skin being tender, some care is requisite in this operation. If the body is correctly proportioned to the skin it will be readily accomplished. We have now a structure sufficiently complete to support itself stiffly when the leg wires are made fast.

A stand is prepared, perch or flat disk, according to the nature of the bird (some perch habitually, while others always alight and progress upon the flat ground). The leg wires are now passed through the stand and the bird brought up into shape as in Fig. 9. It will be readily suggested to the operator that the wires of the neck and legs are susceptible of considerable flexion, and in the judicious manipulation of this framework lies the secret of good taxidermy. The neck is to be bent in any position the operator may choose that corresponds to nature. The feathers require adjusting, the wings to be placed, and the whole body carefully smoothed. In these operations the surgeon's forceps will be found useful. The wings require pinning ; for this purpose iron wires sharpened are useful, the ends left protruding sufficiently to catch the loops of thread which will be wound over the feathers as a last operation, as in Fig. 10. A bit of wire looped over the tail compresses and spreads the feathers neatly. After the bird is fairly mounted in this manner, it is usually necessary to examine the throat and eye sockets and supply the needful stuffing of cotton to fill out properly those parts. The bill should be wound by a thread to close it, and this, with all other temporary appliances, should be allowed to remain for several days, when the parts will be thoroughly dry. The eyes are replaced by excellent glass substitutes, which are obtained readily in the cities. Most small glass eyes are provided with wires, which may be plunged into the stuffing. Hence it will be well to have the stuffing of the eyes of the same material as that of the body, as the wire does not easily penetrate cotton. The eyelids are carefully drawn around the glass eyes sufficiently to hold them in place. Eyes are made to imitate all known forms, and the various colors of irides are well executed. Among the larger kinds, those required for quadrupeds, great excellence is attained ; the peculiar forms and positions of the pupil are observed.

Our specimen is now in the condition of that in Fig. 10—well wound with thread, the feathers in place, the tail spread, and the correct position assumed. It is customary to leave the wire projecting out from the skull until the skin is well dried and shrinkage has ceased ; it may then be cut even with the skull and the part carefully concealed by feathers.

We assume that a specimen prepared in the thorough manner herein described will remain indefinitely unharmed by moths or other noxious insects. The arsenic powder carefully introduced into every part of the fleshy portion is sufficient. It only remains to say that it is always difficult to poison the internal portions of the legs and bill, therefore we apply a solution of corrosive sublimate to those parts, and eventually varnish them ; this done, it is pretty safe to say that the specimen will remain intact. In the American Museum at Central Park are specimens that bear the writing of Prince Maximilian of Germany, and the date 1824, collected in this country by that eminent naturalist, and prepared in Germany. These specimens remain quite perfect, and show no marks of noxious insects. There are many specimens, however, that are subject to attack, and those are surely partially preserved, and not properly poisoned.

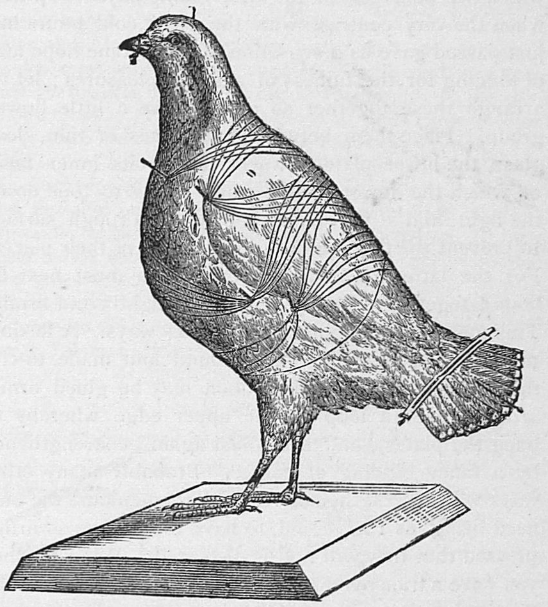

FIG. 10.

We can add one very important item of interest to the "Amateur Taxidermist," or rather the collector, for we anticipate perfect work from our amateur taxidermists. In the very common event of our friends having specimens of skins that have not been properly poisoned, as many that come from abroad are not, it is desirable, should the skins show evidence of the presence of moths, or anthrinæ, or their eggs, to rid them at once of the pests. Late experience with naphtha has proved it most complete in its effects. In December of 1878 we received at the American Museum some fine skins from Central America. They were, however, thickly infested with anthrinæ, a museum pest more troublesome than dermestes, or moths. The live larvæ were among the feathers. These birds we submitted to the naphtha baths of Messrs. Heiser, on West Ninety-first Street, New York, as a test ; they were simply dipped into pure naphtha, and, after a thorough soaking, dried very quickly by steam. The evaporation is so rapid, and the naphtha so clean, no injury whatever is done the plumage ; neither to the color nor texture. It is impossible to detect any disturbance in the appearance of the plumage.

These specimens were then sealed very securely, and allowed to remain until the present month, July, when they were examined, after six months' time, which covered a portion of the warmest weather and a period sufficiently long to allow propagation from eggs, had the latter remained intact. On examining the specimens no sign whatever of noxious insects remained. This we regard as a most important result, as all other methods have proved objectionable, and most of them positively hurtful to the specimens.

J. B. HOLDER.

WILD FLOWERS, FERNS AND GRASSES.

II.—HOW TO UTILIZE THEM.

COLLECTING of whatever kind should have some aim higher than the mere desire of accumulating, higher than vulgar hankering after the possession of something which somebody else has not. It should be practised systematically to develop habits of observation and method, to illustrate some idea in history, literature or art, or to forward some course of study. It should not be a mere matter of gratification, but a means of culture of the tastes and of the intellect. All collecting, save the gathering together of living objects, as in our gardens, our aquaria or our aviaries, from the very fact that it wants the element of life, requires a strong motive to induce us to undertake it and to keep it up when undertaken, and such a motive should be a worthy one. Certainly a collection of dried plants in itself would not be likely to excite sentiments of envy and jealousy in the minds of rival collectors, so that this inducement would happily be absent, and, in fact, I am free to confess that I can hold out but few reasons why my reader should have expended the time and trouble that I suppose him to have devoted to the collecting and drying of wild flowers, unless he has done so with a view to study. One or two reasons, however, I can give, for, unpromising as the materials appear to be, a selection may be made from them which will add appreciably and economically to the decorations of our houses, and will be quite as worthy of a place on our tables or mantelpieces as the caricatures of nature and abortions of art which too often disfigure, if cheap, the cottages of the poor, or, if costly, the mansions of the rich.

We cannot afford, let us say, expensive pictures. Let us select some of the most graceful and delicate flowers, which have kept their colors best in drying; some which we collected in the first balmy days of spring, when the very contrast with the bleak cold hours but just passed gave us a sensation of blithesome hope and of longing for the fulness of summer pleasures; let us arrange these together so as to make a little flower group. Place them between two plates of thin, clear glass, the lower plate, however, having its inner face, on which the flowers rest, ground so as to tone down the light, and at the same time afford a rough surface to prevent the flowers from slipping out of their places. For the latter reason, also, the plates must next be bound together around their edges tightly and firmly. This may be accomplished in various ways. A flexible metal border may be bent around and made to clip them; or a band of silk ribbon may be glued firmly around (with a loop on the upper edge whereby to hang the plates), and this must again be strengthened by a fancy binding of leather. Probably many other ways will suggest themselves to the ingenious, the only need being, as I have said, to have the flowers so firmly pressed that they will not be displaced. When finished you have a transparency symbolical of spring, true to nature as far as it goes, evidence in its arrangement of our own artistic feeling, a subject suggestive of memories and conversation, and, although the colors of the flowers are not what they were, a picture which, if designed with taste, is superior for æsthetic purposes to a wretched print or tawdry chromo. Later on we prepare a group of summer flowers, and in the fall yet another, in which the autumn leaves, rich in their dying tints, take their part. When these three shall hang in our windows, our friends will not only admire them, but we ourselves, through them, shall carry into cold, dead winter pleasant memories of the brighter days of the year, flashes of vacation's sunlight amidst the gloom of work.

We all remember Whittier's "The Pressed Gentian."

"The time of gifts has come again,
And, on my northern window-pane,
Outlined against the day's brief light,
A Christmas token hangs in sight.
The wayside travelers, as they pass,
Mark the gray disk of clouded glass;
And the dull blankness seems, perchance,
Folly to their wise ignorance.

"They cannot from their outlook see
The perfect grace it hath for me;
For there the flower, whose fringes through
The frosty breath of autumn blew,
Turns from without its face of bloom
To the warm tropic of my room
As fair as when beside its brook
The hue of bending skies it took."

And then what if these pictures do fade on exposure! We will next year take the glasses apart and arrange fresh groups, we shall have improved in the art of preserving flowers, more artistic ideas shall have dawned upon us, and our second set will excel our first.

Again, place groups of your dried grasses and ferns in vases on the mantelpiece or on brackets. You may not be able to afford Dresden china, or be willing to ruin your family for the sake of outbidding Mrs. Lately-Come-out-of-Chaos of Murray Hill in the matter of fashionable bric-à-brac, but your really refined friends will think none the less of the ornamentation because it cost you so little, and you will be spared the mortification of seeing them put up their handkerchiefs to their faces to hide their laughter at your extravagance, or to antagonize by eau-de-cologne the overpowering and nauseating odor of unmitigated money.

If there is a man of whom I have learned to hate the sight, it is that most misguided of mankind the book-agent with the frauds, the trickery, and the deceptions of which he is made the mouthpiece: "Illustrated in the highest style of art;" "the illustrations beautifully true to nature;" "an effective ornament on the parlor table." To get rid of the assault you surrender against your better judgment. And then follow months and perhaps years of anxiety, worry, and disgust, only to be ended when, after spending say twenty-four dollars out of your hard-earned income, and after having been told at the least twice twenty-four times that "that money" would look much better on your wife or favorite daughter, you come sadly to the conclusion that you are the possessor of a work on a subject in which you take no earthly interest, and which as a work of art is certainly not worth binding. And to add to all, now comes the taunting query, repeated at odd intervals, "Job, why don't you spend ten dollars in having that book bound?" Take my advice if you want an ornament of this kind for the parlor table, be your own compiler; display your own taste and culture in the formation of a book of ferns or dried flowers. Your book should contain sheets of stout white paper on which to mount the plants, interleaved by leaves of writing paper on which to record any observations that may be required by the design you have in view. (Or, if you prefer, you may mount the specimens on cards to be kept in a portfolio). Your taste may be shown not only in the selection of specimens but in your arrangement of these on the page. Some persons fasten the specimens to the paper with glue, a thin film of which is laid on one side of the plant to be attached. Others use slips of gummed paper, and if the paper used is well gummed, these slips may be cut so narrow that, placed with judgment, they need not interfere much with the good effect of the plant-picture.* In making your plant-book, you must have some defined end in view—either to help yourself to a more exact knowledge of plant structures and of the classification of plants or perhaps to illustrate the poetry of flowers or of ferns. In either case you may make for yourself an original work, an instructive and suggestive ornament for the parlor, which cannot fail to render your family more cultured in mind and more refined in taste; for (pardon the worn platitude) flowers in any form indicate and induce those feelings which are ever at war with harshness, coarseness and vulgarity.

We have all this while almost forgotten the plants which we left a day or two since in our tin box. Let us turn them out and place them in water. You see they have kept fresher than if they had been in the air, and several which we picked only in bud have blossomed healthily in the close confinement. You may set to work with pencil and brush to preserve the forms and true hues of the various species, whilst I will pick some flowers to pieces and analyze them so as to make myself sure of their exact names. As I do this it will be well for you from time to time to give me your attention in order that you may not miss some feature, apparently trivial, but which, nevertheless, is all-important in establishing the identity of the species. In regard to this I would venture to suggest that art should educate not merely the æsthetic taste, but also the moral, and that therefore it should pay strict regard to truth in every detail. Group these details to tell what story you please, but let the details be similitudes. A plant inaccurately drawn by an acknowledged artist is an encouragement to the young to carelessness, to a disregard of exactitude. If a great man is careless they may be, and the example injures them not merely in their art, but in their life-education. Why are artists allowed in our weekly journals (and these of good standing) to flaunt their carelessness before our children in a way that says as plain as if put into writing, "You need not take the trouble to be exact and accurate; the public doesn't know better; it doesn't know that a boat cannot sail right in the wind's eye even with its sails in an impossible position, and we get our money all the same;" or, "Never mind if there never has been or could be such an insect or such a flower; we are paid for it if it is a libel on nature, and that's the great thing"? Forgive me, reader, for moralizing, but I think we have lying enough in all else, and would ask you therefore to be truthful to nature in your drawings if you draw for pleasure, and to be still more careful if you draw for money. If you know any thing about sailing, look back at some recent pictures in one of our best weeklies of regattas (I think on the Harlem River), and what is true in that case of sail boats is true elsewhere of insects and flowers and trees and birds and beasts. Don't attempt to draw or paint a wild flower without first taking the trouble to pick it to pieces and to understand its parts and their uses. Then you will be able to use either the whole or the parts with good effect in designs or otherwise, and you will be giving your mite to the cause of truth and honest work as against the false and the slipshod.

FLOWERS OF JULY AND AUGUST.

JULY is hardly so prolific in new forms of flowers as was June. Many of the flowers of the latter month still continue, but most of these, excepting those that flower through the summer, soon give place to representatives of other families. The Pea or Pulse family gathers strength this month, whilst as August wanes the composite family, with its Asters and Golden-rods, assumes in the variety of its forms and abundance of its individuals an overwhelming preponderance in the floral scene. We have endeavored to think over the forms of these months that especially commend themselves to the art student, but find ourselves fairly baffled by their multitude. The infinite variety that would suggest itself to the artist who would make a deliberate analysis of this abundance, no one but a botanist can realize. And what rich and varied designs might arise from, and what undreamt of and beautiful combinations would be suggested by, such an analysis! Wander along the sea-shore, and setting mosquitoes at defiance, invade the salt marshes. The Beach-pea and the Wild bean, and many quaint prickly or fleshy leaved plants, such as the Saltwort and Samphire, offer themselves to your notice; make a note of them; they may be worked in somewhere when you want the strange or the grotesque. There on the salt meadows and their borders are the beautiful Sabbatia and the seaside Gerardias, the Marsh-Mallow, and the Rose-Mallow. Follow up to the fresh-water swamps and ponds, and what with the Swamp Milkweed, the Button-bush, the Balsams, the Willow-herb, the Marsh St. John's-wort, the Cardinal-flower, gorgeous in its red, and its near rival the great Blue Lobelia, the Wild Yellow Lily, the insect-catching Sundews, and the Blue Veronicas, the lovely Purple Fringed and other nearly allied Orchids, with the delicate Lady's Tresses, the Monkey-flowers and the Turtle-heads, and rank Umbelliferæ, coarse and poisonous, with water lilies white and yellow, and Arrow-heads, and Pickerel weeds, and Sweet Flags, and Cat-tails (with which to arm yourselves), you will soon cry, "Hold! enough!" But we cannot rest here. Press on to the drier woods and the fields on their borders, to the hillsides and shady ravines; the flaming Azaleas hardly ever give way to the glorious Rhododendron or Great Laurel, and tall yellow False Foxgloves look down upon the Spotted Pipsissewa, and the Aromatic Wintergreen and the Enchan-

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* We cordially recommend for the preservation of botanical specimens "The American Plant-Book," an excellent herbarium, advertised on another page, by Daniel Slote & Co., of New York.